to the wind, even in light winds. Changes in the length and area of the tail, changes in the weight and proportions of the kite itself, changes in the bridle, all directly affect the centers of gravity and pressure of the whole system. When these are not in perfect equilibrium, diving results. To get the relative pressure upon inclined flat surfaces we have the accompanying table given by Chanute (Progress in Flying Machines) based upon Duchemin's formula.

Mr. A. M. Herring in his paper upon Dynamic Flight (The Aeronautical Annual) shows that the center of pressure, varying as it does with the inclination of the wind to the plane, must be constantly maintained above the center of weight of the kite if the kite is to fly, and in his judgment "the best solution is probably to be found in such surfaces and their arrangement relative to each other as will remain undisturbed by changes in the wind." * * * Mr. Herring says: "At almost all angles of inclination the center of pressure on a square plane is proportionately farther forward than is the center of pressure on a plane whose advancing edge is five times its breadth. Similarly, at slight angles, the center of pressure on a properly curved surface (whose vertical projection is square) is farther back than either. Another variation in the position of the center of pressure is that produced by speed. If a plane or slightly curved surface be held in a wind and be inclined at a very flat angle, its center of pressure will be found farther forward at high speed than at low." Again, Herring states that "the center of pressure on considerably curved surfaces undergoes a peculiar reversal in its position. For a surface in which the curvature is such that the rise of arc is about one-eighth the cord length, and where the highest point of curvature is one-third the way from the front, the maximum forward position of the center of pressure is found when the surface is tilted at about five degrees; it however travels rapidly backward for either a lesser or greater inclination of the cord."

CLIMATE OF ALASKA.

By A. J. HENRY, Chief of Division of Records and Meteorological Data.

The statistics of temperature of central and interior Alaska given below are of especial interest at the present time. The climate of the coast is comparatively well known chiefly through the compilation of Dr. William H. Dall, published in the Pacific Coast Pilot, Alaska, Appendix I, Meteorology and Bibliography, Washington, 1879.

The chain of coast stations in Alaska maintained by the Signal Service (now Weather Bureau) was extended up the Yukon in the fall of 1882, and a few fragmentary series of meteorological observations were maintained at the trading posts of the Alaska Commercial Company during the closed season. As soon as the ice went out of the river observations were discontinued, not to be resumed until the end of the open season about the middle of September. The observing stations, with their geographical coordinates, are given below: The names of the stations are those now in use, with the following exceptions—Nuklukayet is given on the most recent Coast Survey map of Alaska as "Tuklukyet." The post is but a few miles below the junction of the Yukon and Tanana rivers; indeed, it is not certain but that observations were made at the mouth of the Tanana for a portion of the time. Tchatowklin was known in 1883 as Johnny's Village or Klat-ol-Klin (Schwatka). The Coast Survey map gives the name as "Belle Isle." Camp Colonna, the station on the Porcupine River at its intersection with the one hundred and forty-first meridian, was occupied by the boundary survey party sent out by the United States Coast and Geodetic Survey, under the leadership of Mr. J. H. Turner. Camp Davidson is the station at the intersection of the one hundred and forty-first meridian and the Yukon. It was occupied by a Coast Survey party under the charge of Mr. J. E. McGrath.

Monthly and annual mean temperature (in degrees Fahrenheit).

MEAN TEMPERATURE.

Stations.	Latitude.	Longitude.	Elevation.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Annual.	Length of record. From—	Length of record. To—	Yrs.	Mos.
Coast.	° ′	° ′	*Feet.*	°	°	°	°	°	°	°	°	°	°	°	°	°				
Fort Wrangell	56 30	132 28	25–35	26.2	30.8	31.6	42.7	49.3	55.3	58.2	57.5	52.3	45.9	33.5	32.8	43.0	May, 1868	Aug., 1882	4	18
Sitka*	57 03	131 19	63	31.4	32.9	35.6	40.8	47.0	52.4	55.4	55.9	51.5	44.9	38.1	33.3	43.3	Jan., 1828	Dec., 1876	45	2
Sitka†	.....	.....	.....	34.2	33.0	37.2	41.9	46.9	51.6	54.4	56.6	52.3	45.7	39.8	36.0	44.5	April, 1881	Sept., 1887	5	18
Killisnoo‡	57 22	134 29	.....	26.7	26.9	33.3	35.5	44.9	50.3	54.8	53.6	46.5	41.2	32.7	30.6	39.8	May, 1881	Dec., 1896	11	25
Juneau	58 19	134 28	.....	27.5	24.7	33.5	40.1	47.7	53.6	56.6	55.0	49.9	41.9	31.2	29.3	40.9	May, 1883	Dec., 1896	2	28
Kadiak	57 48	152 19	.....	30.0	28.2	32.6	36.3	43.2	49.5	54.7	55.2	50.0	42.3	34.7	30.5	40.6	Jan., 1869	Aug., 1896	8	54
Unalaska*	53 53	166 32	13	30.0	31.9	30.4	35.6	40.9	46.3	50.6	51.9	45.5	37.6	33.6	30.1	38.7	Oct., 1827	April, 1868	6	20
Unalaska†	53 54	166 24	13	33.5	30.5	32.6	35.2	40.4	45.9	49.6	50.3	46.0	40.4	34.6	32.8	39.3	June, 1872	May, 1886	2	33
St. Michaels	63 28	161 48	30	7.4	— 2.3	8.9	19.9	33.1	46.3	53.6	51.9	43.9	30.5	15.6	4.8	26.1	July, 1874	June, 1886	11	12
Point Barrow	71 23	156 16	.....	—17.5	—18.6	—11.8	— 1.2	21.4	32.8	38.1	37.9	27.8	4.4	—6.0	—15.4	7.7	Sept., 1852	Aug., 1883	3	10
Interior.																				
Anvik	62 37	160 08	.....	1.8	1.3	15.5	25.4	42.0	.....	.....	.....	43.0	25.1	10.0	— 2.1	.....	Oct., 1882	Mar., 1891	....	31
Nuklukayet	65 10	152 45	.....	—11.1	— 9.0	6.7	22.2	43.7	.....	.....	54.4	43.4	25.9	—4.6	—19.9	.....	Aug., 1882	May, 1886	....	27
Fort Yukon	66 33	145 18	412	—29.5	—11.6	0.6	.....	41.3	.....	.....	.....	.....	.....	.....	.....	.....	Jan., 1861	May, 1861	....	4
Tchatowklin	65 30	142 38	.....	—15.8	—11.3	11.3	31.0	45.1	.....	.....	54.2	42.7	19.7	2.5	—15.0	.....	Oct., 1882	May, 1886	....	26
Fort Reliance	64 10	139 25	.....	—28.7	—19.7	10.5	26.7	43.9	.....	.....	.....	43.9	27.3	—7.0	—21.4	.....	Sept., 1882	May, 1886	....	16
Camp Davidson	.....	.....	.....	—17.4	— 9.9	7.1	23.6	45.0	57.2	60.3	52.1	39.0	30.5	2.9	—15.6	22.9	Sept., 1889	June, 1891	1	10
Camp Colonna	.....	.....	.....	—15.2	—15.3	— 8.0	6.4	41.0	51.9	.....	.....	.....	20.1	—4.4	—17.4	.....	Oct., 1889	June, 1890	....	9

EXTREMES OF TEMPERATURE—MAXIMUM.

Anvik	.....	.....	.....	35	37	46	46	67	.....	.....	65	66	51	39	25	.....	.....	.....	....	....
Nuklukayet	.....	.....	.....	35	38	46	52	72	.....	.....	79	72	54	36	17	.....	.....	.....	....	....
Tchatowklin	.....	.....	.....	17	33	56	62	82	.....	.....	80	78	59	39	39	.....	.....	.....	..	..
Fort Reliance	.....	.....	.....	20	37	45	59	76	.....	.....	.....	67	55	36	34	.....	.....	.....	....	....
Camp Davidson	.....	.....	.....	25	37	38	56	74	84	87	74	66	52	39	17	.....	.....	.....	....	....
Camp Colonna	.....	.....	.....	17	36	33	51	68	79	85	.....	.....	34	34	17	.....	.....	.....	....	....

EXTREMES OF TEMPERATURE—MINIMUM.

Anvik	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	....
Nuklukayet	.....	.....	.....	—76	—60	—38	—14	11	.....	.....	28	12	—21	—53	—68	.....	.....	.....	....	....
Tchatowklin	.....	.....	.....	—75	—74	—56	—11	10	.....	.....	30	8	—28	—50	—68	.....	.....	.....	....	....
Fort Reliance	.....	.....	.....	—80	—72	—36	—10	16	.....	.....	.....	18	—11	—50	—69	.....	.....	.....	....	.. .
Camp Davidson	.....	.....	.....	—60	—55	—45	—26	8	30	35	31	14	4	—35	—49	.....	.....	.....	....	....
Camp Colonna	.....	.....	.....	—49	—47	—48	—28	15	26	36	.....	.....	— 6	—36	—43	.....	.....	.....	....	....

NOTE.—The number of years during which observations were made continuously is given under the heading "Years." The total number of months, exclusive of the whole years, is given under the heading "Months." *Russian series. †Signal Service. ‡Means from 1889–1896, inclusive, used; means prior to that time not computed.